

926512-101092

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

IN RE THE APPLICATION OF	)
Richard C. Fuksa	) Examiner: Craig M. Schneider
Jun Zhu	)
SERIAL NO. 10/752,651	) Confirmation No. 4106
FILED: January 7, 2004	) Group Art Unit No. 3753
	) Customer number: 24628
FOR: PIN INSERT	)

**BRIEF ON APPEAL**

Commissioner for Patents  
P.O. Box 1450  
Alexandria VA 22313-1450

This Appeal is from the Examiner's final Office Action of February 13, 2007.

An appropriate Notice of Appeal, with Extension of Time, was filed June 19, 2007.

A Pre-Appeal Brief Request for Review was filed June 19, 2007.

The Notice of Panel Decision from the Pre-Appeal Brief Review wherein the status of rejected claims 1-8 as rejected was confirmed on August 13, 2007.

Appropriate extensions of time to file the appeal brief have been filed to extend the time to file the appeal brief to December 13, 2007.

The Appeal Brief fee of \$510.00 pursuant to 37 C.F.R. §41.20(b)(2) should be deducted from Deposit Account No. 23-0920

i) real party in interest

This application is assigned to Thomas Industries, Inc. of Sheboygan, Wisconsin, who is the real party in interest.

(ii) Related Appeals and Interferences

There are no known appeals or interferences which may affect or have a bearing on this appeal.

(iii) Status of claims

This application was filed with claims 1-8 and during prosecution claims 1 and 7 were amended in response to the non-final Action of September 1, 2006. No further amendments have been made to the claims.

It is the rejection of claims 1-8 that is appealed, and the appealed claims are set forth in the Claims Appendix.

(iv) Status of amendments

All amendments having been filed before the Final Action have been entered and considered by the Examiner.

(v) Summary of claimed subject matter

There is one independent claim in the application, claim 1.

A. Claim 1 – Independent

The subject matter of claim 1 is directed to (Figs. 1 & 2) a valve pin insert (10) in combination with a valve plate (12), said pin insert having a body (11) inserted into said valve plate, wherein the body has a lower shank (16) at one end of the body and an upper shank (18) adjacent to the lower shank, the lower shank being of a first diameter (page 3 line 2 of paragraph 0014) and the upper shank being of a second diameter (page 3 line 3 of paragraph 0014), the first diameter being less than the second diameter (page 3 lines 2-3 of paragraph 0014) and wherein between the lower shank and the upper shank of the body an undercut shoulder (22) forms a recess

opening in the direction toward the lower shank, the recess forming a tooth (24) that shears material of the valve plate as the pin is inserted into a hole in the valve plate (page 3 lines 6-7 of paragraph 0015) and wherein said valve pin insert has an insert position, wherein when in said insert position said upper and lower shank are disposed in said valve plate (page 3 lines 7-9 of paragraph 0014); and said valve pin insert is fixedly connected to said valve plate (page 4 lines 33-6 of paragraph 0016).

(vi) Grounds of rejection to be reviewed on appeal

There are two grounds of rejection of the claims of this application:

A. Ground of rejection 1 (Claims 1-2)

Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wise (3,621,868) in view of Miller.

B. Ground of rejection 2 (Claim 3)

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wise and Miller as applied to claim 1 above, and further in view of Kawaguchi et al.

(vii) Argument

A. Ground of rejection 1 (Claims 1 & 2).

The Examiner has rejected the Claims 1 and 2 as being unpatentable over Wise (3,621,868) in view of Miller. This rejection is submitted to clearly be in error.

Independent claim 1 of the present invention reads as follows (set forth in paragraph form without drawing references):

A valve pin insert in combination with a valve plate, said pin insert having a body inserted into said valve plate, wherein the body has a lower shank at one end of the body and an upper shank adjacent to the lower shank, the lower shank being of a first diameter and the upper shank being of a second

diameter, the first diameter being less than the second diameter and wherein between the lower shank and the upper shank of the body an undercut shoulder forms a recess opening in the direction toward the lower shank, the recess forming a tooth that shears material of the valve plate as the pin is inserted into a hole in the valve plate and wherein said valve pin insert has an insert position, wherein when in said insert position said upper and lower shank are disposed in said valve plate; and said valve pin insert is fixedly connected to said valve plate.

As to claim 1, the Examiner states on pages 2 of the Final Action that Wise discloses a valve pin insert (32) in combination with a valve plate, the pin insert having a body inserted into a valve plate (26) as seen in Figures 3 and 4 (col. 2, lines 10-12) and in the insert position, the valve pin insert is fixedly connected to the first member; the valve pin insert is coupled to a valve (33), the valve moveable relative to the valve plate member (col. 2, lines 18-28). In paragraph 3 pages 2 and 3 starting on line 7 of paragraph 3, Wise **does not disclose**

a valve pin insert wherein the body has a lower shank at one end of the body and an upper shank adjacent to the lower shank,  
the lower shank being of a first diameter and the upper shank being of a second diameter,  
the first diameter being less than the second diameter and wherein between the lower shank and the upper shank of the body an undercut shoulder forms a recess opening in the direction toward the lower shank,  
the recess forming a tooth that shears material of the valve plate as the pin is inserted into a hole in the valve plate and  
wherein the valve pin insert has an insert position, wherein when in the insert position, the upper and lower shank are disposed in the valve plate.

The Examiner then states on page 3 lines 6-17 that Miller discloses a dowel (10) that has a lower shank at one end of the body and an upper shank adjacent to the lower shank as seen in Figure 4B col. 3, lines 23-25), the lower shank being of a first diameter and the upper shank being of a second diameter, the first diameter being less than the second diameter and wherein between the lower shank and the upper shank of the body an undercut

shoulder forms a recess opening in the direction toward the lower shank, the recess forming a tooth that shears material as the dowel is inserted into a hole as seen in Figure 4B and wherein the valve pin insert has an insert position, wherein when in the insert position, the upper and lower shank are disposed in the valve plate.

Then the Examiner concludes with "It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the dowel construction of Miller onto the valve pin of Wise, in order to have a quick and easy connection (abstract of Miller).

(See Final Office Action, dated February 15, 2007, paragraph 3 on pages 2& 3 starting on line 3 and ending 6<sup>th</sup> line from the bottom on page3).

Applicant agrees with the Examiner that Wise **does not disclose**

a valve pin insert wherein the body has a lower shank at one end of the body and an upper shank adjacent to the lower shank,

the lower shank being of a first diameter and the upper shank being of a second diameter,

the first diameter being less than the second diameter and wherein between the lower shank and the upper shank of the body an undercut shoulder forms a recess opening in the direction toward the lower shank,

the recess forming a tooth that shears material of the valve plate as the pin is inserted into a hole in the valve plate and wherein the valve pin insert has an insert position,

wherein when in the insert position, the upper and lower shank are disposed in the valve plate.

As stated above, and agreed to by the Examiner, Wise does not disclose or suggest a valve pin insert with any of the important aspects of applicants' invention. Further there is no suggestion as to why Wise's pin should be modified or that it should be used for anything but a breathing tube check valve. Further there is no disclosure or suggestion in Wise that the pin should have anything but a cylindrical shank that is normally held in place by being cemented in the holes 31, (col. 2 lines 24-26). The Wise breathing tube valve

pin is subjected to very little stresses and therefore there is no need to change its design.

The artisan of ordinary skill in the art would not look to Wise as a primary teaching for improving a valve pin insert used for instance in a flapper valve of chemical duty pumps of the type applicants disclosed in paragraphs 0005 and 0006, pages 1 and 2 of their specification. For these reasons, Wise is totally inadequate as a primary reference to teach or suggest applicants pin insert as set forth in claims 1 and 2. The Examiner has failed to reasonably state why the person of ordinary skill in the art would look to modify the insert pin of Wise and just sets forth his conclusion. As stated by the Board in *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985) "to support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references "The Examiner has not done this.

The Examiner then states further in paragraph 3 page 3 lines 6-17 of the final Office Action:

Miller discloses a dowel (10) that has a lower shank at one end of the body and an upper shank adjacent to the lower shank as seen in Figure 4B col. 3, lines 23-25), the lower shank being of a first diameter and the upper shank being of a second diameter, the first diameter being less than the second diameter and wherein between the lower shank and the upper shank of the body an undercut shoulder forms a recess opening in the direction toward the lower shank, the recess forming a tooth that shears material as the dowel is inserted into a hole as seen in Figure 4B and wherein the valve pin insert has an insert position, wherein when in the insert position, the upper and lower shank are disposed in the valve plate. The diameter of the lower shank is less than the diameter of the hole in the valve plate. The diameter of the hole of the valve plate must be larger than the dowel when the dowel is inside the hole.

(See Final Office Action, dated February 15, 2007, page 3 lines 6-17).

Applicant respectfully disagrees with the conclusion that Miller has a lower shank and an upper shank adjacent to the lower shank . Rather, Miller shows in Figures 1, 4A and 4B and col. 3 lines 18 -26 that his dowel has three sections (shanks) with the lower section(shank) being adjacent of the middle section(shank) and not the upper section(shank). The purpose of the Miller dowel is to quickly and easily connect two or more adjoining components 30 and 34, Figure 3 and the Abstract. This is accomplished by having the middle section extend into both components so that they are easily aligned for joining, Figure 3 and col. 5 lines 37-44. There is no suggestion in Miller that his dowel should be modified to have only two sections (shanks) and that none of his sections should be used to extend into and between two sections. Further the Examiner has not set forth any reasons why the person of ordinary skill in the art would desire to modify dowel of Miller to have two sections of different diameters and then modify the pin of Wise to have the two modified shanks of Miller and also to ignore the teachings of Miller that indicates a special drill is needed to provide a special hole in both components being joined. Of course if the Wise diaphragm is to be considered one of the components then drilling a hole in the diaphragm would be contrary to what is required by Wise. Thus the Examiner has failed to reasonably state why the person of ordinary skill in the art would look to modify the insert pin of Wise and the dowel of Miller. The Examiner just sets forth his conclusions. As is noted above this is appropriate per *Ex parte Clapp*

Applicant respectfully disagrees with the conclusion that the concave step disclosed by Miller forms a tooth that shears material as the dowel is inserted in the components 30 and 34. Miller discloses that the concave steps 17 in Figure 4B provide an abutment the same as steps 17 in Figure 1 col. 3 lines 51-53, or steps 17 in Figure 4A col. 3 lines 55-57 or the rounded step as set for in col. 3 line 65. That is , that the shape of step 17 corresponds to the shape of the hole portion 38 in the components 30 and 34. There is no suggestion in Miller or any reason for the person of ordinary skill to modify the steps 17 of Miller to a shearing tooth. Therefore the Examiner's conclusion that Miller teaches a tooth that would shear is not correct.

With regard to claim 2, the Examiner states at page 3 "The diameter of the lower shank is less than the diameter of the hole in the valve plate. The diameter of the hole of the valve plate must be larger than the dowel when the dowel is inside the hole.

Still further, Applicant respectfully disagrees with the conclusion that Miller teaches that the diameter of the lower connection(shank) is less than the hole in the valve plate. Miller does not have a valve plate and Miller specifically discloses in col.5 lines 55-56 that the diameter of the lower section is greater than the diameter of the hole 36 (Figure 3). The hole size doesn't change because the pin is inserted into the hole. The hole frictionally engages the dowel section thus both the hole and the lower section would be the same size when in the inserted position. Thus the Examiner's conclusion with regard to claim 2 is not correct.

The Examiner comes then to the following conclusion with regard to claims 1 and 2 in paragraph 3 page 3 in the final Office Action:

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the dowel construction of Miller onto the valve pin of Wise, in order to have a quick and easy connection (abstract of Miller).

(See Final Office Action, dated March 28, 2007, page 3, lines 18- 20).

Applicant respectfully disagrees for the many reasons set forth above. To further support their position that their invention is not obvious, Applicant has submitted the 132 declaration by the inventor Richard Fuxsa, Evidence Exhibit A. Mr. Fuxsa declares that he is a person of skill in the art and that it would not be obvious to him to arrive at his invention by considering the Wise and Miller patents. Mr. Fuxsa states in effect that to improve the design of assemblies which are the subject of his invention, he would not look to the breathing tube check valve of Wise whose daiphram 33 does not contact the pin 32. Also There is no suggestion or teaching by Wise, that the Wise pin should be used for anything but a breathing tube and certainly no suggestion that the pin should be anything but cylindrical and the hole into which it is fixed, should be anything but cylindrical.



Fuska states he would not consider the dowel construction of Miller to modify the the pin design of Wise. Why would he even consider the teachings of Miller. Miller does not suggest or teach that his dowel can function as a pin to hold the diaphragm of Wise. Miller does not suggest or teach how to modify or manufacture his dowel so that it could act as a diaphragm holding pin in Wise. The Miller patent teaches a stepped dowel that is used with a special drill as shown in his Figures 5-6. The drill provides a hole in the elements 30 & 34 so that the elements can to be joined. The hole is shaped to the dowel configuration and the dowel is not used to cut into member 30 or 34. Fuksa beleives that the dowel construction of Miller is to complicated to be used in combination with a valve plate. What the Examiner fails to ask is why would the person of ordinary skill in the art, with knowledge of the Wise and Miller inventions and not the Fuksa invention first significantly modify the dowel construction of Miller and then totally discard the pin shank construction of Wise and use the modified dowel construction of Miller as the pin shank. The Examiner merely set forth a conclusion without any reasons.

The Examiner in his Resonse to Arguments Page 6 of the Final Action states that the he does not consider Fuksa's Declaration as germane to the issue of patentability. This is not appropriate in that Fuska declares unambiguously that after considering both Wise and Miller, his invention as set forth in claims 1 & 2 is not obvious. This declaration can not be disregarded because the Examiner does not like the facts it sets forth.

An affidavit of an applicant as to the advantages of his or her claimed invention, while less persuasive than that of a disinterested person, cannot be disregarded for this reason alone. *Ex parte Keyes*, 214 USPQ 579 (Bd. App. 1982); *In re McKenna*, 203 F.2d 717, 97 USPQ 348 (CCPA 1953).

Independent claim 1 and dependent claim 2 are thus in condition for allowance.

A. Ground of rejection 2 (Claim 3)

Claim 3 was rejected under 35 U.S.C. 103(a) as being unpatentable over Wise and Miller as applied to claim 1 above, and further in view of Kawaguchi et al.

This rejection is also submitted to clearly be in error.

Dependent claim 3 of the present invention reads as follows (in paragraph form and without the drawing references):

The pin of claim 1 wherein the pin is made of PEEK.

With regard to claim 3, the Examiner states at page 4 of the final Office Action:

Wise and Miller disclose all the features of the invention except that the pin is made of PEEK. Kawaguchi et al. discloses the use of PEEK as a corrosion resistant material (page 3, paragraphs 53-55). It would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the plastic material utilized by Wise and Miller for the PEEK material of Kawaguchi et al., in order to make the plastic more chemical resistant.

(See Final Office Action, dated March 28, 2007, page 4 lines 1-6. Applicant respectfully disagrees.

As stated above, Wise and Miller do not disclose all the features of the invention except that the pin is made of PEEK. None of Wise, Miller and Kawaguchi et al teach or suggest or disclose the use of a PEEK as a valve pin insert. The only disclosure of a PEEK valve pin with the structure set forth in our claim 1 is our application.

Claim 3 also meets the requirement of non-obviousness, because there is no indication or hint in any of the cited prior art pointing in the direction of these features.

In view of the arguments above, dependent claim 3 is submitted to be in condition for allowance.

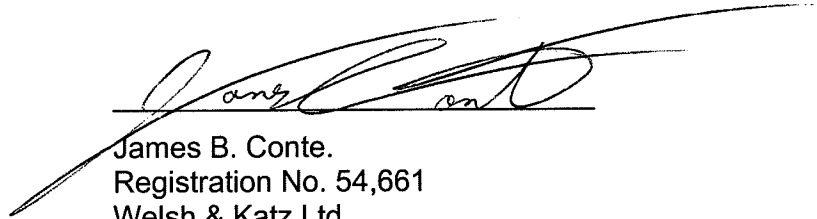
B. Claims 4-8 are dependent claims depending on independent claim 1. Consequently, claims 4-8 also are submitted to be allowable. At least by virtue of their dependence on an allowable claim.

#### CONCLUSION

The rejection of claims 1-8 is in error and the Examiner should be reversed. Such action is therefore solicited.

December 13, 2007

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'James B. Conte', is written over a horizontal line.

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## Claims Appendix

1. A valve pin insert in combination with a valve plate, said pin insert having a body inserted into said valve plate, wherein the body has a lower shank at one end of the body and an upper shank adjacent to the lower shank, the lower shank being of a first diameter and the upper shank being of a second diameter, the first diameter being less than the second diameter and wherein between the lower shank and the upper shank of the body an undercut shoulder forms a recess opening in the direction toward the lower shank, the recess forming a tooth that shears material of the valve plate as the pin is inserted into a hole in the valve plate and wherein said valve pin insert has an insert position, wherein when in said insert position said upper and lower shank are disposed in said valve plate and said valve pin insert is fixedly connected to said valve plate.

2. The pin of claim 1, wherein the diameter of the lower shank is less than the diameter of the hole in the valve plate.

3. The pin of claim 1 wherein the pin is made of PEEK.

4. The pin of claim 1 wherein the valve plate is made of PTFE.

5. The pin of claim 1 wherein the undercut shoulder is molded into the pin.

6. The pin of claim 1 wherein the undercut shoulder is machined into the pin.

7. The pin of claim 1 wherein the undercut shoulder extends to a depth beneath the surface of the lower shank.

8. The pin of claim 1, further comprising a stud extending axially outwardly from the body.

## **Evidence Appendix**

Attached1 32 Declaration of the Inventor Richard C. Fuksa

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

<b>IN RE APPLICATION OF:</b>	<b>RICHARD C. FUKSA</b>	<b>ART UNIT: 3753</b>
<b>APPLICATION NO.:</b>	<b>10/752,651</b>	<b>CONFIRMATION NO. 4106</b>
<b>FILED:</b>	<b>01/07/2004</b>	<b>EXAMINER: CRAIG M. SAHNEIDER</b>
<b>FOR:</b>	<b>PIN INSERT</b>	

**ASSISTANT COMMISSIONER FOR PATENTS  
WASHINGTON, D.C. 20231**

**DECLARATION TRAVERSING REJECTION (37 C.F.R. 1.132)****PURPOSE OF DECLARATION**

1. THIS DECLARATION IS TO ESTABLISH THAT MY INVENTION AS SET FORTH IN U.S. PATENT APPLICATION 11/752,651 IS NEITHER ANTICIPATED NOR OBVIOUS OVER THE CITED PRIOR ART.
2. I AM ONE OF THE THE INVENTORS OF U.S. PATENT APPLICATION 10/752,651.
3. I am fully experienced in the field of manufacturing valves for various pumps and the use of valve pin inserts and I am presently employed by the owner of this application.
4. I have read and understand the Wise U.S. Patent 3,621,868 and the Miller US Patent 6,627,527. The Examiner has stated that my claims 1 and 2 are obvious over Wise in view of Miller. As the Examiner has recognized, Wise which discloses valves for a face mask does not disclose a valve pin insert wherein the body has a lower shank at one end of the body and an upper shank adjacent to the lower shank, the lower shank being of a first diameter and the upper shank being of a second diameter, the first diameter being less than the second diameter and wherein between the lower shank and the upper shank of the body an undercut shoulder forms a recess opening in the direction toward the lower shank, the recess forming a tooth

that shears material of the valve plate as the pin is inserted into a hole in the valve plate and wherein said valve pin insert has an insert position, wherein when in said insert position said upper and lower shank are disposed in said valve plate.

The Miller patent does not disclose or suggest that Miller's invention, a dowel generally used for manufacturing or repairing furniture, can be used as a valve insert. There is no suggestion in Miller that Miller's dowel structure shown in Fig. 4B forms a tooth that shears material as the dowel is inserted in a preformed hole. As Miller clearly shows in Fig. 3 the hole is constructed to the shape of the dowel. This is further acknowledged by Miller in Column 6 lines 20-23.

5. It would not be obvious to me, a person skilled in the art nor do I believe to anyone having ordinary skill in the valve pin insert art from reading and understanding U.S. Patents 3,621,868 and 6,267,527 to arrive at my valve pin insert wherein the body has a lower shank at one end of the body and an upper shank adjacent to the lower shank, the lower shank being of a first diameter and the upper shank being of a second diameter, the first diameter being less than the second diameter and wherein between the lower shank and the upper shank of the body an undercut shoulder forms a recess opening in the direction toward the lower shank, the recess forming a tooth that shears material of the valve plate as the pin is inserted into a hole in the valve plate and wherein said valve pin insert has an insert position, wherein when in said insert position said upper and lower shank are disposed in said valve plate and the valve insert is fixedly connected to the valve plate.

6. I have read and understand the Wise U.S. Patent 3,621,868 and the Miller US Patent 6,267,527 and the Kawaguchi et al U.S. Publication 2003/0181560. The Examiner has stated that my claim 3 is obvious over Wise in view of Miller for the reasons set forth in his rejection of claim 1 and further in view of Kawaguchi et al who discloses the chemical PEEK. It must be recognized that I am not claiming to be the inventor of PEEK or the compositions claimed by Kawaguchi et al. However I am the inventor of the valve pin insert as claimed in claim 1 wherein the valve pin insert is made of PEEK. As noted above Wise and Miller do not teach or suggest my invention and Kawaguchi et al does not suggest the use of a PEEK valve pin insert having the structure of my claim 1. My invention is the only suggestion for claim 3.

7. It would not be obvious to me, a person skilled in the art nor do I believe to anyone having ordinary skill in the valve pin insert art from reading and understanding U.S. Patents 3,621,868 and 6,267,527 and U.S. Publication 2003/0181560 to arrive at my PEEK valve pin insert wherein the body has a lower shank at one end of the body and an upper shank adjacent to the lower shank, the lower shank being of a first diameter and the upper shank being of a second diameter, the first diameter being less than the second diameter and wherein between the lower shank and the upper shank of the body an undercut shoulder forms a recess opening in the direction toward the lower shank, the recess forming a tooth that shears material of the valve plate as the pin is inserted into a hole in the valve plate and wherein said valve pin insert has an insert position, wherein when in said insert position said upper and lower shank are disposed in said valve plate and the valve pin insert is fixedly connected to the valve plate.

8. I have read and understand the Wise U.S. Patent 3,621,868 and the Miller US Patent 6,627,527 and the Malloy et al U.S. Patent 4,146,206. The Examiner has stated that my claim 4 is obvious over Wise in view of Miller for the reasons set forth in his rejection of claim 1 and further in view of Malloy et al who discloses a valve seat liner made of PTFE. It must be recognized that I am not claiming to be the inventor of a PTFE valve seat or a valve seat liner made of PTFE. However I am the inventor of the valve pin insert as claimed in claim 1 wherein the valve plate is made of PTFE. As noted above Wise and Miller do not teach or suggest my invention of using my valve pin insert with a PTFE valve plate. As should be noted, Malloy et al has dowels 30 and 31 that are not inserted into PTFE. My invention is the only suggestion for claim 4.

9. It would not be obvious to me, a person skilled in the art nor do I believe to anyone having ordinary skill in the valve pin insert art from reading and understanding U.S. Patents 3,621,868 and 6,267,527 and U.S. Patent 4,146,206 to arrive at my valve pin insert wherein the body has a lower shank at one end of the body and an upper shank adjacent to the lower shank, the lower shank being of a first diameter and the upper shank being of a second diameter, the first diameter being less than the second diameter and wherein between the lower shank and the upper shank of the body an undercut shoulder forms a recess opening in



the direction toward the lower shank, the recess forming a tooth that shears material of the valve plate as the pin is inserted into a hole in the valve plate and wherein said valve pin insert has an insert position, wherein when in said insert position said upper and lower shank are disposed in said valve plate and the valve pin insert is fixedly connected to the valve plate and wherein the valve plate is made of PTFE.

10. I have read and understand the Wise U.S. Patent 3,621,868 and the Miller US Patent 6,627,527 and the Runge U.S. Patent 4,182,217. The Examiner has stated that my claim 5 is obvious over Wise in view of Miller for the reasons set forth in his rejection of claim 1 and further in view of Runge who discloses a molded molybolt device. Runge does not relate or suggest valve pin inserts. It must be recognized that I am not claiming to be the inventor of molding nor the molybolts of Runge. However I am the inventor of the valve pin insert as claimed in claim 4. Wise and Miller do not teach or suggest my invention as stated above and Runge does not disclose that the valve pin insert of Wise or that any valve pin should have an undercut shoulder. My invention is the only suggestion for claim 5.

11. It would not be obvious to me, a person skilled in the art nor do I believe to anyone having ordinary skill in the valve pin insert art from reading and understanding U.S. Patents 3,621,868 and 6,267,527 and U.S. Patent 4,182,217 to arrive at my valve pin insert wherein the body has a lower shank at one end of the body and an upper shank adjacent to the lower shank, the lower shank being of a first diameter and the upper shank being of a second diameter, the first diameter being less than the second diameter and wherein between the lower shank and the upper shank of the body a molded undercut shoulder forms a recess opening in the direction toward the lower shank, the recess forming a tooth that shears material of the valve plate as the pin is inserted into a hole in the valve plate and wherein said valve pin insert has an insert position, wherein when in said insert position said upper and lower shank are disposed in said valve plate and the valve pin insert is fixedly connected to the valve plate.

12. I have read and understand the Wise U.S. Patent 3,621,868 and the Miller US Patent 6,627,527 and the Kindt U.S. Patent 2,221,141. The Examiner has stated that my claim 6 is obvious over Wise in view of Miller for the reasons set forth in his rejection of claims 1 and 2

and further in view of Kindt. It must be recognized that I am not claiming to be the inventor of screw dowel pins nor the use of machining for screw dowel pins, as shown in Kindt. Kindt does not disclose or suggest that his dowel pin should be used as a valve pin insert, or that a valve pin of Wise should have a machined undercut, or the dowels of Miller should be reconstructed as his screw dowel pin. Wise and Miller do not teach or suggest my invention for the same reasons stated above. My invention is the only suggestion for claim 6.

13. It would not be obvious to me, a person skilled in the art nor do I believe to anyone having ordinary skill in the valve pin insert art from reading and understanding U.S. Patents 3,621,868 and 6,267,527 and U.S. Patent 2,221,141 to arrive at my valve pin insert wherein the body has a lower shank at one end of the body and an upper shank adjacent to the lower shank, the lower shank being of a first diameter and the upper shank being of a second diameter, the first diameter being less than the second diameter and wherein between the lower shank and the upper shank of the body a machined undercut shoulder forms a recess opening in the direction toward the lower shank, the recess forming a tooth that shears material of the valve plate as the pin is inserted into a hole in the valve plate and wherein said valve pin insert has an insert position, wherein when in said insert position said upper and lower shank are disposed in said valve plate and the valve insert is fixedly connected to the valve plate.

14. I have read and understand the Wise U.S. Patent 3,621,868 and the Miller US Patent 6,627,527 and the Hinkel U.S. Patent 6,435,758. The Examiner has stated that my claim 7 is obvious over Wise in view of Miller for the reasons set forth in his rejection of claims 1 and 2 and further in view of Hinkel who discloses a torque converter coupling 64 having an undercut shoulder. There is no suggestion that any of the structures for Hinkel should be used for a valve insert pin. It must be recognized that I am not claiming to be the inventor of undercutting in general. However I am the inventor of the valve pin insert as claimed in claim 7. Wise and Miller do not teach or suggest my invention as stated above Hinkle does not disclose that the dowel of Miller or the valve stem of Wise should be manufactured to conform to his torque converter coupling. My invention is the only suggestion for claim 7.

15. It would not be obvious to me, a person skilled in the art nor do I believe to anyone having ordinary skill in the valve pin insert art reading and understanding U.S. Patents 3,621,868 and 6,267,527 and U.S. Patent 6,435,758, to arrive at my valve pin insert wherein the body has a lower shank at one end of the body and an upper shank adjacent to the lower shank, the lower shank being of a first diameter and the upper shank being of a second diameter, the first diameter being less than the second diameter and wherein between the lower shank and the upper shank of the body an undercut shoulder forms a recess opening in the direction toward the lower shank, the recess forming a tooth that shears material of the valve plate as the pin is inserted into a hole in the valve plate and wherein said valve pin insert has an insert position, wherein when in said insert position said upper and lower shank are disposed in said valve plate and the valve insert is fixedly connected to the valve plate.

16. I have read and understand the Wise U.S. Patent 3,621,868 and the Miller US Patent 6,627,527 and of course Exhibit A. The Examiner has stated that my claim 8 is obvious over Wise in view of Miller for the reasons set forth in his rejection of claims 1 and 2 and further in view of Exhibit A which disclosed a valve pin insert that does not have the structure of our claim 1. It must be recognized that I am not claiming to be the inventor of a valve pin having a stud extending axially outwardly from the body. However I am the inventor of the valve pin insert as claimed in claim 1 which includes (claim 8) -having a stud extending axially outwardly from the body. Wise and Miller do not teach or suggest my invention as stated above and Exhibit A does not disclose that the dowel of Miller should have a stud extending axially outwardly from the body. In fact it appears that if such a stud was put on the Miller dowel this would be contrary to the purpose of Miller's invention. My invention is the only suggestion for claim 8.

17. I declare that all the statements made herein of my own knowledge are true and that all the statements made on information and belief are believed to be true; and further that the statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of application 10/752,651 or any patent issued thereon.

SIGNATURE

FULL NAME OF FIRST INVENTOR RICHARD C. FUKSA

INVENTOR'S SIGNATURE

A handwritten signature in cursive script, appearing to read 'Rich Fuxsa', written over a horizontal line.

DATE

12/18/06

### **Related Proceedings Appendix**

None.